

9.7 TOWNSHIP OF MIDDLE

This section presents the jurisdictional annex for the Township of Middle.

A.) HAZARD MITIGATION PLAN POINT OF CONTACT

Primary Point of Contact	Alternate Point of Contact
Mark Mallett / Business Administrator 33 Mechanic Street, Cape May Courthouse, NJ 08210 609-465-8732 mmallett@middletownship.com	Jill Zarharchuck / Deputy Emergency Management Coordinator; Paralegal/Director of Economic Development 33 Mechanic Street, Cape May Court House, NJ 08210 609-465-8731 izarharchuck@middletownship.com

B.) TOWNSHIP PROFILE

Population

16,278 (estimated 2008 Residential Population, Cape May County Planning Dept.)
 69,181 (estimated 2008 Summer Population, Cape May County Planning Dept.)

Location

The Township of Middle is located within the central portion of Cape May County, New Jersey. It is bounded on the north by the Township of Dennis, on the east by the Boroughs of Avalon and Stone Harbor and the Atlantic Ocean, on the south-southeast by the Wildwoods and the Atlantic Ocean, the southwest by the Township of Lower and the west by the Delaware Bay. It is part of the Ocean City Metropolitan Statistical Area. Cape May Court House, Rio Grande and Whitesboro-Burleigh are census-designated places (CDPs) and unincorporated communities located within Middle Township. Green Creek is an unincorporated community that has no corresponding CDP.

According to the U.S. Census Bureau, the township has a total area of 83.1 square miles (215.3 km²), with 71.3 square miles (184.6 km²) of it land and 11.8 square miles (30.6 km²) of it (14.23-percent) water.

Climate

Cape May County, with all its municipalities, lies within the Coastal Climate zone of the State of New Jersey. In autumn and early winter, when the ocean is warmer than the land surface, the Coastal Zone will experience warmer temperatures than interior regions of the state. In the spring months, ocean breezes keep temperatures along the coast cooler. Being adjacent to the Atlantic Ocean, with its high heat capacity (compared to land), seasonal temperature fluctuations tend to be more gradual and less prone to extremes. Sea breezes play a major role in the coastal climate. When the land is warmed by the sun, heated air rises, allowing cooler air at the ocean surface to spread inland. Coastal storms, often characterized as Nor'Easters, hurricanes or tropical storms, are most frequent between October and April. These storms track over the coastal plain or up to several hundred miles offshore, bringing strong winds and heavy rains (ONJSC, Date Unknown).

The average monthly temperatures of the county in winter are 42° to 47°F during December, January and February. March climbs up to about 51°F. April's average is 60°F and in May it can get as warm as 69°F. Average water temperatures are 37 to 42°F (CapeMay.com, Date Unknown). Cape May County has been

known to experience the least amount of snow accumulations in the State, reaching approximately 15 inches in snow annually.

Brief History

Middle Township was formed as a precinct on April 2, 1723, and was incorporated as one of New Jersey's initial 104 townships by an Act of the New Jersey Legislature on February 21, 1798. Portions of the township have been taken to form Anglesea Borough (on June 13, 1885; now North Wildwood City), Avalon Borough (April 18, 1892), Wildwood (May 1, 1895), Stone Harbor Borough (April 3, 1914) and West Wildwood (April 21, 1920) (Snyder, 1969).

Governing Body Format

Middle Township is governed under the Township form of government with a three-member Township Committee. The Township Committee is elected directly by the voters in partisan elections to serve three-year terms of office on a staggered basis, with one seat coming up for election each year. At an annual reorganization meeting, the Township Committee selects one of its members to serve as Mayor and another as Deputy Mayor (Rutgers University, 2005).

Growth/Development Trends

At this time, no new major residential/commercial development and major infrastructure development have been identified for the next five (5) years.

Indicators of potential development in Cape May County include Vacant Developable, Residential Subdividable, Farmland Developable, Commercial Buildable, Greyfield Sites, and Brownfield Sites. These areas, identified by the 2009 *Maser Consulting, Transfer of Development Rights Feasibility Study*, are summarized in the following table.

Summary of Potentially Developable Land in the Township of Middle

Municipality	Residential Sub-dividable		Farmland Developable		Commercial Buildable		Greyfield Sites		Brownfield Sites		Vacant		Total Per Municipality	
	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres	Number of Lots	Number of Acres
Township of Middle	11	70.6	12	156.4	0	0	3	48.9	19	42.2	247	1051.7	292	1369.8

Source: Maser Consulting, Transfer of Development Rights Feasibility Study, 2009



C.) NATURAL HAZARD EVENT HISTORY SPECIFIC TO THE TOWNSHIP

Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Coastal Storm, Flooding	DR-124	March, 1962	\$3,000,000 (countywide)
Snowstorm	Not applicable	December, 1973	\$24,000 (countywide)
Flood	Not applicable	November, 1977	\$2,400,000 (countywide)
Flood	Not applicable	March, 1984	\$500,000 (countywide)
Coastal Storm	Not applicable	October, 1991	\$90,000,000 (statewide) \$1,700,000-\$4,000,000 (countywide)
Tidal Flood	Not applicable	November, 1991	\$167,000 (countywide)
Severe Coastal Storm	DR-936	January, 1992	\$16,000 (countywide)
Coastal Storm, High Tides, Heavy Rain, Flooding	DR-973	December, 1992	\$16,800,000 (countywide)
Severe Winter Storm	EM-3106	March-01-1993	\$2,600,000 (statewide)
Coastal Flood	Not applicable	March, 1994	\$167,000 (countywide)
Severe Winter Storm, Coastal Storm	DR-1088	January-01-1996	\$800,000 (countywide)
Coastal Flood, Coastal Erosion	Not applicable	January, 1996	\$3,600,000 (countywide)
Coastal Flood	Not applicable	January, 1998	\$3,800,000 (countywide)
Coastal Storm	DR-1206	February, 1998	\$3,600,000-\$4,200,000 (countywide)
Hurricane Floyd	EM-3148	September-01-1999	\$492,000 (countywide)
Snowstorm	EM-3181	February-01-2003	\$1,400,000 (countywide)
Strong Winds	Not applicable	March, 2003	\$5,000 (countywide)
Thunderstorm, Wind	Not applicable	October, 2003	\$32,000 (countywide)
Severe Winter Storm, Coastal Flooding	Not applicable	February, 2006	\$225,000 (countywide)
Thunderstorm, Wind	Not applicable	March, 2008	\$10,000 (multi-jurisdictional)
Severe Storm, Flooding (Tropical Storm Ida and Nor'Easter)	DR-1867	November, 2009	TBD

Number of FEMA Identified Repetitive Flood Loss Properties: 88
Number of FEMA Identified Severe Repetitive Flood Loss Properties: 23

Source: FEMA Region 2 as of December 2009

D.) NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

Rank #	Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c, d}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
3	Coastal Erosion	Not available	Frequent	36	Medium
1	Coastal Storm	Min: \$722,169,474 Max: \$841,758,384	Frequent	54	High
1	Flood	\$375,355,000	Frequent	54	High
2	Severe Storm	\$155,369,384	Frequent	48	High
3	Severe Winter Storm	\$16,434,510	Frequent	36	Medium
4	Tsunami	Not available	Rare	12	Low
3	Wildfire	Not available	Frequent	36	Medium

- a. Building damage ratio estimates based on FEMA 386-2 (August 2001)
- b. High = Total hazard priority risk ranking score of 40 and above
Medium = Total hazard priority risk ranking of 20-39
Low = Total hazard risk ranking below 20
- c. The valuation of general building stock and loss estimates determined in Cape May County were based on the default general building stock database provided in HAZUS-MH MR4 (RSMMeans 2006).
The coastal storm loss estimate is a combination of the wind and storm surge minimum and maximum damages for the 500-year event. Severe storm (structure only) and flood (structure and contents) hazard loss estimates are for the 500-year MRP event. For severe winter storm, the loss estimate is 1% of total general building stock value (structure only).
- d.

E.) CAPABILITY ASSESSMENT

This section identifies the following capabilities of the local jurisdiction:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- The probability of occurrence for these events is weighted at “0” due to no exposure

E.1) Legal and Regulatory Capability

Regulatory Tools (Codes, Ordinances., Plans)	Local Authority (Y or N)	Prohibitions (State or Federal) (Y or N)	Higher Jurisdictional Authority (Y or N)	State Mandated (Y or N)	Code Citation (Section, Paragraph, Page Number, date of adoption)
1) Building Code	Y	Y	Y	Y	112
2) Zoning Ordinance	Y	Y	Y	Y	250
3) Subdivision Ordinance	Y	Y	N	N	250
4) NFIP Flood Damage Prevention Ordinance	Y	Y	Y	N	146
5) Growth Management	Y	Y	N	Y	Master Plan
6) Floodplain Management / Basin Plan	N	Y	Y	Y	
7) Stormwater Management Plan/Ordinance	Y	Y	Y	Y	No ordinance
8) Comprehensive Plan / Master Plan/ General Plan	Y	N	N	Y	Master Plan
9) Capital Improvements Plan	Y	N	N	N	Part of budget
10) Site Plan Review Requirements	Y	N	Y	N	No ordinance
11) Open Space Plan	Y	N	Y	N	No ordinance
12) Shoreline Management or Protection Plan	N	Y	N	N	
13) Economic Development Plan	Y	N	Y	Y	
14) Emergency Response Plan	Y	Y	Y	N	No ordinance
15) Post Disaster Recovery Plan	N	N	N	N	
16) Post Disaster Recovery Ordinance	N	Y	Y	N	
17) Real Estate Disclosure req.	Y	Y	Y	Y	No ordinance
18) Other [Special Purpose Ordinances (i.e., critical or sensitive areas)]	N/A	N/A	N/A	N/A	

E.2) Administrative and Technical Capability

Staff/ Personnel Resources	Available (Y or N)	Department/ Agency/Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Township Engineer
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Township Engineer
3) Planners or engineers with an understanding of natural hazards	Y	Township Engineer
4) NFIP Floodplain Administrator	Y	Donald Arndt, Construction Official
5) Surveyor(s)	N	
6) Personnel skilled or trained in "GIS" applications	Y	Assessor's Office
7) Scientist familiar with natural hazards in the Township of Middle.	N	
8) Emergency Manager	Y	Calvin Black
9) Grant Writer(s)	Y	Jill Zarharchuck
10) Staff with expertise or training in benefit/cost analysis	Y	CFO, Business Administrator

E.3) Fiscal Capability

Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community development Block Grants (CDBG)	Y
2) Capital Improvements Project Funding	Y
3) Authority to Levy Taxes for specific purposes	Y
4) User fees for water, sewer, gas or electric service	Y
5) Impact Fees for homebuyers or developers of new development/homes	Y
6) Incur debt through general obligation bonds	Y
7) Incur debt through special tax bonds	N
8) Incur debt through private activity bonds	N
9) Withhold public expenditures in hazard-prone areas	N
10) Other	

E.4) Community Classifications

Program	Classification	Date Classified
Community Rating System (CRS)	NP	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	--	--
Public Protection	--	--
Storm Ready	NP	N/A
Firewise	NP	N/A

N/A = Not applicable. NP = Not participating. - = Unavailable.

The classifications listed above relate to the community's effectiveness in providing services that may impact its vulnerability to the natural hazards identified. These classifications can be viewed as a gauge of the community's capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class one (1) being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

F.) PROPOSED HAZARD MITIGATION INITIATIVES

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
TM-1a	Where appropriate, support retrofitting of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for retrofitting based on cost-effectiveness versus relocation. Where retrofitting is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Coastal Storm, Flood, Severe Storm	1, 2, 4, 6	1-1, 1-2, 1-9, 1-11, 2-4, 4-1, 6-2, 6-3	Borough (likely through NFIP Floodplain Administrator)	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
TM-1b	Where appropriate, support purchase, or relocation of structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Identify facilities that are viable candidates for relocation based on cost-effectiveness versus retrofitting. Where relocation is determined to be a viable option, consider implementation of that action based on available funding.	Existing	Coastal Storm, Flood, Severe Storm	1, 2, 4, 6	1-1, 1-2, 1-9, 1-11, 2-4, 4-1, 6-2, 6-3	Borough	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Long-term DOF
TM-2 (CMC-	Consider participation in the incentive-based	New & Existing	Flood	1, 2, 6	1-1, 1-2, 1-5, 1-7, 2-1, 2-2, 2-3,	Township	Low - Medium	Local Budget	Short



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Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
2)	program CRS.				6-2, 6-3				
TM-3	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	New & Existing	All Hazards	1 through 6	All	Township (through mitigation planning point of contacts)	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Ongoing
TM-4	Strive to maintain compliance with, and good-standing in the National Flood Insurance program.	New & Existing	Flood	1, 2, 4, 5, 6	1-1, 1-2, 1-3, 1-7, 1-9, 2-3, 2-4, 4-1, 4-2, 4-9, 5-1, 5-2, 6-2, 6-3	Municipality (likely through NFIP Floodplain Administrator)	Low - Medium	Local Budget	Ongoing
TM-5	Continue to develop, enhance, and implement existing emergency plans.	New & Existing	All Hazards	1, 3, 4, 6	1-7, 1-8, 3-1, 3-2, 3-3, 4-1, 4-4, 4-5, 4-7, 4-8, 4-10, 6-1, 6-2	Municipal Emergency Manager with support from County OEM and NJOEM	Low - Medium	Local Budget	Ongoing
TM-6	Create/enhance/ maintain mutual aid agreements with neighboring communities.	New & Existing	All Hazards	1, 3, 4, 6	1-7, 1-8, 3-1, 3-2, 3-3, 4-1, 4-4, 4-5, 4-7, 4-8, 6-1, 6-2, 6-3	Borough	Low - Medium	Local Budget	Ongoing
TM-7	Support County-wide initiatives identified in Section 9.1 of the County Annex.	New & Existing	All Hazards	1 through 6	All	Local departments (as applicable for specific initiative)	Low - High	Existing programs and grant funding where applicable	Ongoing – Long-term depending on initiative
TM-8	Purchase back-up generator to supply back-up power to the regional shelter located at Elementary #2 School	Existing	All Hazards (except Coastal Erosion)	1, 3, 4	1-1, 3-3, 4-6, 4-7	Middle Township	Low	Existing programs and grant funding where applicable	DOF
TM-9	Widen the lanes of Route 47 to accommodate more	Existing	All Hazards (except Coastal	1, 3, 4, 6	1-1, 1-4, 3-3, 4-2, 4-7, 4-10, 6-	Middle Township;	High	FEMA HMA, other grant	DOF



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Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
	traffic. This heavily trafficked roadway is an essential evacuation route. This project would be a part of a regional project with Dennis Township and Cumberland County.		Erosion)		2	Dennis Township; Cape May County; Cumberland County; State of New Jersey		funding where applicable	
TM-10	Widen the lanes on Courthouse Dennisville Road to accommodate more traffic. This heavily trafficked roadway is an essential evacuation route.	Existing	All Hazards (except Coastal Erosion)	1, 3, 4, 6	1-1, 1-4, 3-3, 4-2, 4-7, 4-10, 6-2	Middle Township; Cape May County	High	FEMA HMA, other grant funding where applicable	DOF
TM-11	Widen the lanes on Indian Trail Road (County Road). This heavily trafficked roadway is an essential evacuation route.	Existing	All Hazards (except Coastal Erosion)	1, 3, 4, 6	1-1, 1-4, 3-3, 4-2, 4-7, 4-10, 6-2	Middle Township; Cape May County	High	FEMA HMA, other grant funding where applicable	DOF
TM-12	Elevate Beach Avenue on Reeds Beach to mitigate flooding.	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	Middle Township	High	FEMA HMA, other grant funding where applicable	DOF
TM-13	Purchase and install hurricane shutters on municipal buildings; with high priority to Town Hall.	Existing	Coastal Storm, Severe Storm	1, 3, 4	1-1, 3-3, 4-6, 4-7	Middle Township	Medium	FEMA HMA, other grant funding where applicable	DOF
TM-14	Bulkheads on Reeds Beach to mitigate flooding in residential area which will mitigate flooding for approximately 30 homes.	Existing	Coastal Storm, Severe Storm, Flood	1, 4	1-1, 1-4, 1-10, 4-2	Middle Township	Medium	FEMA HMA, other grant funding where applicable	DOF
TM-15	Elevate Springer's Mill Road to mitigate flooding	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	Cape May County	High	FEMA HMA, other grant funding where applicable	DOF



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Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
TM-16	Connect Grassy Sound's sewers to public sewer system. The existing sewer system consists of an above-ground tank that is vulnerable to flooding. This would be a multi-jurisdictional effort with North Wildwood.	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 6	1-1, 1-6, 3-4, 6-2	North Wildwood; Middle Township	Medium to High	Middle Township Capital Budget; PDM	DOF
TM-17	Elevate Route 9 by High Tech in Edgewood to mitigate flooding.	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	Middle Township; State of New Jersey	High	FEMA HMA, other grant funding where applicable	DOF
TM-18 (CMC-9)	Elevate Route 47 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 47 and Garden State Parkway)	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	NJ DOT; New Jersey Turnpike Authority	High	State/Federal tolls	Long Term DOF (not currently under active consideration by State)
TM-19 (CMC-12)	Elevate Route 147 roadway and ramps, which will require elevating the Garden State Parkway bridge overpass (intersection of State Route 147 and Garden State Parkway)	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	NJ DOT; New Jersey Turnpike Authority	High	FEMA HMA, other grant funding where applicable	Long Term; DOF
TM-20 (CMC-20)	As an interim project prior to implementation of TM-21 below, elevate the Avalon Boulevard northbound onramp to the GSP (chronic problem area and critical for evacuation)	N/A	Coastal Storms, Flooding, Severe Storms	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	County Engineering with NJTPA	High (because funding is not identified) but project is relatively low cost – Priority is	TBD	Longterm DOF



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Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Timeline
							HIGH		
TM-21 (CMC-21)	Elevate Avalon Blvd roadway and ramp, which will require elevating the Garden State Parkway bridge overpass (intersection of Avalon Blvd and Garden State Parkway)	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	NJ DOT; New Jersey Turnpike Authority	High	FEMA HMA, other grant funding where applicable	Long Term; DOF
TM-22	Identify and install proper locations for and install water drawn stations (siphons) to increase fire-fighting capabilities.	New & Existing	Wildfire	1, 3, 4	1-1, 3-3, 4-7, 4-8	Township	Medium	FEMA HMA, other grant funding where applicable	
TM-23 (CMC-17 and TL-16)	Elevate CR-603 (Bayshore Road) through Lower and Middle Townships through Fishing Creek Swamp. County to advise as to status of this project	Existing	Coastal Storm, Severe Storm, Flood	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	Cape May County	High	FEMA HMA, other grant funding where applicable	Long Term; DOF
TM-24 (CMC-22, Avalon)	Elevate Avalon Boulevard from Parkway into Avalon proper (~2.5 miles).	Existing	Coastal Storms, Flooding, Severe Storms	1, 3, 4	1-1, 1-4, 3-3, 4-2, 4-10	County Engineering	High	TBD	Longterm DOF
TM-25 (CMC-43)	Conduct an engineering study to understand flooding issues and evaluate possible solutions along the entire length of Shunpike Road (CR620) in Middle Township	Existing	Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-6, 3-4, 4-1, 4-6, 6-2	County Engineering with municipal support	Medium	County and Local Funding	Short-term
TM-26 (CMC-50)	Conduct an engineering study to understand flooding issues and evaluate possible solutions at low areas along Satt Boulevard (CR626) in Middle Township	Existing	Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-6, 3-4, 4-1, 4-6, 6-2	County Engineering with municipal support	Medium	County and Local Funding	Short-term
TM-27	Conduct an engineering	Existing	Severe Storms,	1, 3, 4, 6	1-1, 1-5, 1-6, 3-	County	Medium	County and	Short-term



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(CMC-51)	study to understand flooding issues and evaluate possible solutions along Railroad Avenue (CR626) in Middle Township		Flooding		4, 4-1, 4-6, 6-2	Engineering with municipal support		Local Funding	
TM-28 (CMC-53)	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Dias Creek Road (CR612) in Middle Township	Existing	Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-6, 3-4, 4-1, 4-6, 6-2	County Engineering with municipal support	Medium	County and Local Funding	Short-term
TM-29 (CMC-54)	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Indian Trail Road (CR618) in Middle Township	Existing	Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-4, 1-5, 1-6, 3-4, 4-1, 4-2, 4-6, 4-10, 6-2	County Engineering with municipal support	Medium	County and Local Funding	Short-term
TM-30 (CMC-55)	Conduct an engineering study to understand flooding issues and evaluate possible solutions along Goshen-Swainton Road (CR646) in Middle Township	Existing	Severe Storms, Flooding	1, 3, 4, 6	1-1, 1-5, 1-6, 3-4, 4-1, 4-6, 6-2	County Engineering with municipal support	Medium	County and Local Funding	Short-term
TM-31 (CMC-62)	Install shore/roadway protection along Ocean Drive (CR619) in Middle Township	Existing	Coastal Storms, Severe Storms, Coastal Erosion	1, 3, 4, 5	1-1, 3-4, 4-1, 4-6, 5-4	County Engineering with municipal support	High	HMA Grants, County and Local Funding	Short-term
TM-32 (CMC-63)	Construction of storm drain pipe to minimize flooding on Goshen Road (CR615) from Johnson Lane to Church Street in Middle Township	New & Existing	Flooding, Severe Storms	1, 3, 4, 6	1-1, 1-4, 1-6, 3-4, 4-1, 4-2, 4-6, 4-10, 6-2	County Engineering with municipal support	Low	HMA Grants, County and Local Funding	In Progress, Short-term
TM-33	Construction of storm	New &	Flooding,	1, 3, 4, 6	1-1, 3-4, 4-1, 4-	County	Low	HMA Grants,	In Progress,



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(CMC-64)	sewer system to alleviate flooding on Court House – South Dennis Road (CR657) from Village Drive to College Drive in Middle Township	Existing	Severe Storms		6, 6-2	Engineering with municipal support		County and Local Funding	Short-term
TM-34 (CMC-69)	Become a National Fire Protection Association (NFPA) “Firewise” community. Participation in the NFPA “Firewise” program shall be supported by countywide and regional resources including the Cape May County Fire Chiefs Association and the New Jersey State Forest Fire Service (Firewise Community Liaison) by providing information on the “Firewise” program, facilitating public outreach and awareness programs, and supporting community fire risk reduction activities as appropriate (see County Initiative CMC-69).	N/A	Wildfire	1, 2, 4, 6	1-1, 1-3, 1-7; 2 (all objectives); 4-1, 4-4, 4-5, 4-9; 6-2, 6-3	Local Fire Chiefs working with County Fire Coordinator	L-M	Existing Budgets	Short-term
TM-35	Through attendance at the regular meetings of the Cape May County Fire Chiefs Association, and in partnership with the New Jersey Division of Fire Safety and the New Jersey State Forest Fire Service, expand and enhance public awareness and education programs that support wildfire mitigation at the	N/A	Wildfire	1, 2, 4, 6	1-1, 1-3, 1-7; 2 (all objectives); 4-1, 4-4, 4-5, 4-9; 6-2, 6-3	Local Fire Chiefs	LM	Existing Budgets	Short-term



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	property owner level; and expand local wildfire preparedness and response capabilities through participation in seminars and training, and the implementation of recommendations and initiatives offered by these agencies, as resources permit.								

Note(s): CMC = Cape May County; Short term = 1 to 5 years; Long Term = 5 years or greater; OG = On-going program; DOF = Depending on funding; PDM = Pre-Disaster Mitigation Grant Program

* Does this mitigation initiative reduce the effects of hazards on new and/or existing building and/or infrastructure?



G.) ANALYSIS OF MITIGATION ACTIONS

This table summarizes the participant's mitigation actions by hazard of concern and the six mitigation types to illustrate that the Township has selected a comprehensive range of actions/projects.

Hazard of Concern	Mitigation Type					
	1. Prevention	2. Property Protection	3. Public Education and Awareness	4. Natural Resource Protection	5. Emergency Services	6. Structural Projects
Coastal Erosion	TM-3, TM-5, TM-6, TM-7	TM-7, TM-31	TM-3, TM-7	TM-7	TM-5, TM-7	TM-7, TM-31
Coastal Storm	TM-3, TM-5, TM-6, TM-7	TM-1a and 1b, TM-7 to 21, TM-23, TM-31	TM-3, TM-7	TM-7	TM-5, TM-7, TM-8, TM-13	TM-7, TM-14, TM-31
Flood	TM-2, TM-3, TM-5, TM-6, TM-7	TM-1a and 1b, TM-2, TM-4, TM-7 to 21, TM-23, TM-25 to -33	TM-2, TM-3, TM-4, TM-7	TM-2, TM-4, TM-7	TM-5, TM-7, TM-8, TM-13, TM-29	TM-7, TM-14, TM-32, TM-33
Severe Storm	TM-3, TM-5, TM-6, TM-7	TM-1a and 1b, TM-7 to 21, TM-23, TM-25 to -33	TM-3, TM-7	TM-7	TM-5, TM-7, TM-8, TM-13, TM-29	TM-7, TM-14, TM-31 to -33
Severe Winter Storm	TM-3, TM-5, TM-6, TM-7	TM-7 to 11	TM-3, TM-7	TM-7	TM-5, TM-7, TM-8, TM-13	TM-7, TM-14
Tsunami	TM-3, TM-5, TM-6, TM-7	TM-7 to 11	TM-3, TM-7	TM-7	TM-5, TM-7, TM-8, TM-13	TM-7
Wildfire	TM-3, TM-5, TM-6, TM-7, TM-34, TM-35	TM-7 to 11, TM-34, TM-35	TM-3, TM-7, TM-34, TM-35	TM-7, TM-34, TM-35	TM-5, TM-7, TM-8, TM-13, TM-23, TM-35	TM-7

Notes:

- 1. Prevention:** Government, administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- 2. Property Protection:** Actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- 3. Public Education and Awareness:** Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.
- 4. Natural Resource Protection:** Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- 5. Emergency Services:** Actions that protect people and property, during and immediately following, a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities.
- 6. Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.

H.) PRIORITIZATION OF MITIGATION INITIATIVES

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
TM-1a	8	H	H	Y	Y	N	M-H*
TM-1a	8	H	H	Y	Y	N	M-H*
TM-2	9	M	L	Y	N	Y	H
TM-3	All	M	M	Y	N (Yes for 5 year update)	N	M
TM-4	14	H	L	Y	N	Y	H
TM-5	13	M	L	Y	N	Y	M
TM-6	13	M	L	Y	N	Y	M
TM-7	All	M-H	L-M	Y	Dependant on specific initiative	Dependant on specific initiative	M-H (dependant)
TM-8	4	M	L	Y	Y	N (local match only)	M
TM-9	7	H	H	Y	Y	N (local match only)	M
TM-10	7	H	H	Y	Y	N (local match only)	M
TM-11	7	H	H	Y	Y	N (local match only)	M
TM-12	5	H	H	Y	Y	N (local match only)	M
TM-13	4	M	M	Y	Y	N (local match only)	M
TM-14	4	M	M	Y	Y	N (local match only)	M
TM-15	5	H	H	Y	Y	N (local match only)	M
TM-16	4	H	H-M	Y	TBD	N (local match only)	M
TM-17	5	H	H	Y	Y	N (local match only)	M
TM-18	5	H	H	Y	Y	N (local match only)	M
TM-19	5	H	H	Y	Y	N (local match only)	M

Initiative #	# of Objectives met	Benefits	Costs	Do Benefits equal or exceed Costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can Project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
TM-20	5	H	L-M	Y	Y	N (local match only)	H
TM-21	5	H	H	Y	Y	N (local match only)	M
TM-22	4	H	M	Y	N	N (local match only)	M
TM-23	5	H	H	Y	Y	N (local match only)	M
TM-24	5	H	H	Y	Y	N (local match only)	M
TM-25	7	H	M	Y	Y	Y	H
TM-26	7	H	M	Y	Y	Y	H
TM-27	7	H	M	Y	Y	Y	H
TM-28	7	H	M	Y	Y	Y	H
TM-29	10	H	M	Y	Y	Y	H
TM-30	7	H	M	Y	Y	Y	H
TM-31	5	H	H	Y	Y	N	H
TM-32	9	H	L	Y	Y	Y	H
TM-33	5	H	L	Y	Y	Y	H
TM-34	14	M	L	Y	N	Y	H
TM-35	14	M	L	Y	N	Y	H

Notes: H = High. L = Low. M = Medium. N = No. N/A = Not applicable. Y = Yes.

* This initiative has a “Medium” priority based on the prioritization scheme used in this planning process (implementation dependent on grant funding), however it is recognized that addressing repetitive and severe repetitive loss properties is considered a high priority by FEMA and OEM (as expressed in the State HMP), and thus shall be considered a “High” priority for all participants in this planning process.

Explanation of Priorities

- **High Priority** - A project that meets multiple objectives (i.e., multiple hazards), benefits exceeds cost, has funding secured or is an on-going project and project meets eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation Grant Program (PDM) programs. High priority projects can be completed in the short term (1 to 5 years).

- **Medium Priority** - A project that meets goals and objectives, benefits exceeds costs, funding has not been secured but project is grant eligible under, HMGP, PDM or other grant programs. Project can be completed in the short term, once funding is completed. Medium priority projects will become high priority projects once funding is secured.
- **Low Priority** - Any project that will mitigate the risk of a hazard, benefits do not exceed the costs or are difficult to quantify, funding has not been secured and project is not eligible for HMGP or PDM grant funding, and time line for completion is considered long term (1 to 10 years). Low priority projects may be eligible other sources of grant funding from other programs. A low priority project could become a high priority project once funding is secured as long as it could be completed in the short term.

Prioritization of initiatives was based on above definitions: Yes

Prioritization of initiatives was based on parameters other than stated above: Not applicable.

I.) FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

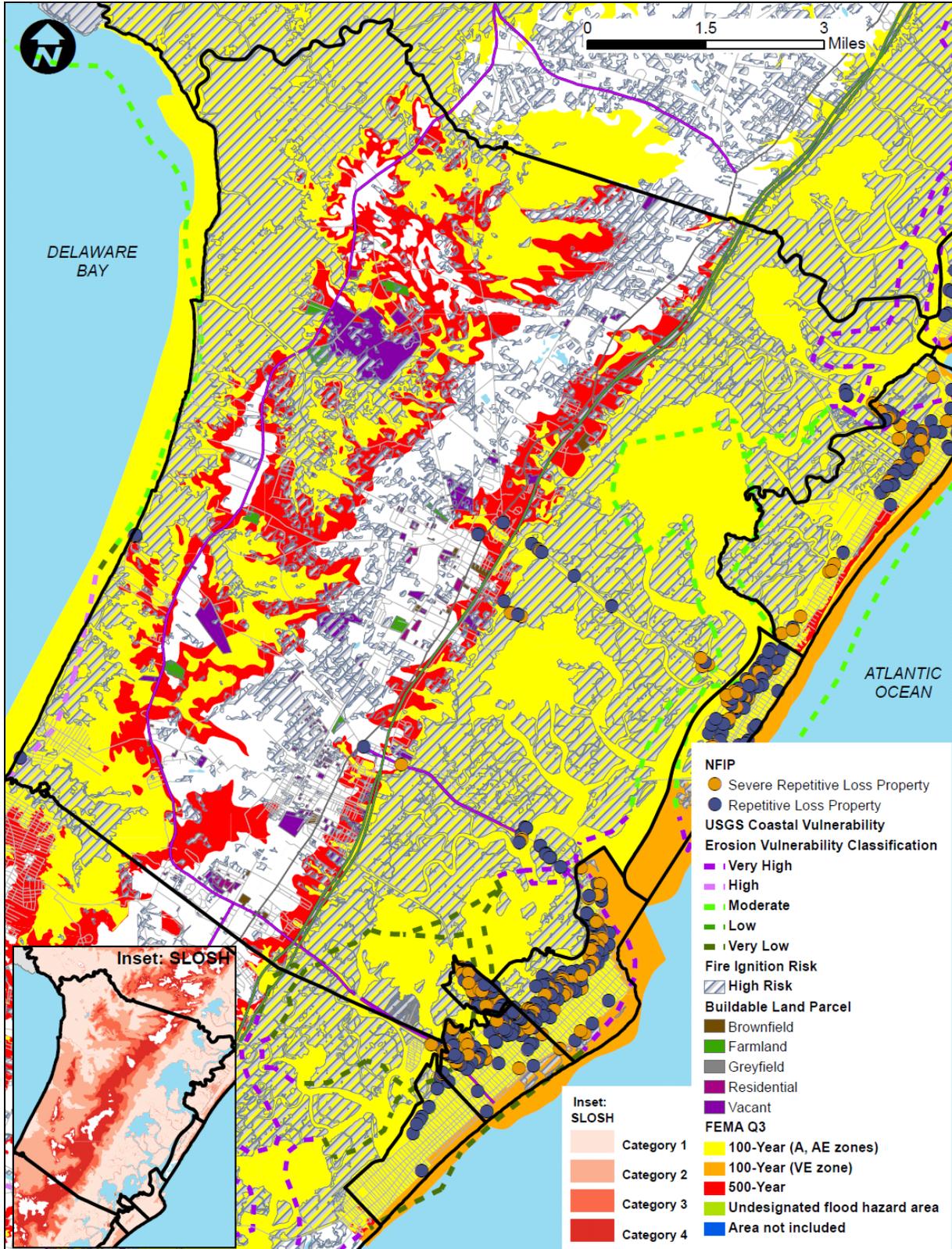
None at this time.

J.) HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map has been generated and is provided below for the Township of Middle to illustrate the probable areas impacted within the Township. This map is based on the best available data at the time of the preparation of this Plan, and is considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Middle has significant exposure. The county maps are provided in the hazard profiles within Section 5.4, Volume I of this Plan.

K.) ADDITIONAL COMMENTS

No additional comments at this time.



Sources: USGS, 2001; FEMA Q3; Cape May County Planning Department; Maser 2009

Notes: The entire municipality is vulnerable to the following hazards: coastal storm, severe storm and severe winter storm. Only the high risk wildfire areas are illustrated on this map; please refer to Section 5.4.6 for all wildfire hazard risk areas. At this time, there is no defined tsunami hazard area for Cape May County.